

WE CLAIM:

1. A method for assessing risk of Coronary Vascular Disease (CVD) in a patient which comprises measuring levels of both Lipoprotein Associated Phospholipase A2 (Lp-PLA2) and C-reactive protein (CRP) in the patient, analyzing a risk associated with the level of CRP and a risk associated with the level of Lp-PLA2, and using the combined risks to assess the risk of CVD in the patient.
2. The method of claim 1 wherein the Coronary Vascular Disease (CVD) is Coronary Heart Disease (CHD).
3. The method of Claim 1 which further comprises measuring levels of low density lipoprotein cholesterol (LDL) and analyzing the respective levels of all three markers, LDL, CRP and Lp-PLA2, in combination so as to assess the risk of CVD in the patient.
4. The method of claim 1 wherein the measuring of CRP and Lp-PLA2 levels are done simultaneously.
5. The method of claim 1 wherein the measuring of CRP and Lp-PLA2 are done sequentially.
6. The method of claim 1 wherein the respective levels of CRP and Lp-PLA2 are based on dividing a patient population dataset into high and low levels of each CRP and Lp-PLA2 and a patient having both high CRP and high Lp-PLA2 levels is indicative of heightened risk of CVD.
7. The method of claim 1 wherein the respective levels of CRP and Lp-PLA2 are based on dividing a patient population dataset into high, medium and low levels of each CRP and Lp-PLA2 and a patient having both high CRP and high Lp-PLA2 levels is indicative of heightened risk of CVD.
8. The method of claim 3 wherein

- a. the respective levels of CRP and Lp-PLA2 are based on dividing a patient population dataset into high and low levels of each CRP and Lp-PLA2;
 - b. the respective level of LDL is based on dividing the patient population dataset into high and low levels of LDL; and
 - c. a patient having low LDL levels but having both high CRP and high Lp-PLA2 levels is indicative of heightened risk of CVD for the patient.
9. The method of claim 3 wherein
 - a. the respective levels of CRP and Lp-PLA2 are based on dividing a patient population dataset into high, medium and low levels of each CRP and Lp-PLA2;
 - b. the respective level of LDL is based on dividing the patient population dataset into high and low levels of LDL; and
 - c. a patient having low LDL levels but having both high CRP and high Lp-PLA2 levels is indicative of heightened risk of CVD for the patient.
10. The method of claim 1 further comprising determining the patients risk of CVD using the ATP III guidelines.
11. The method claim 1 wherein the Lp-PLA2 levels are determined by measuring either Lp-PLA2 mass or Lp-PLA2 activity.
12. A method for assessing risk of Coronary Vascular Disease (CVD) in a patient with low to normal Low Density Lipoprotein Cholesterol (LDL) levels which comprises measuring levels of both LDL and Lipoprotein Associated Phospholipase A2 (Lp-PLA2) and in the patient, analyzing a risk associated with the level of LDL and a risk associated with the level of Lp-PLA2, and using the combined risks to assess the risk of CVD in the patient.
13. The method of claim 12 wherein the Coronary Vascular Disease (CVD) is Coronary Heart Disease (CHD).

14. The method of claim 12 wherein the measuring of LDL and Lp-PLA2 levels are done simultaneously.
15. The method of claim 12 wherein the measuring of LDL and Lp-PLA2 are done sequentially.
16. The method of claim 12 wherein the levels of Lp-PLA2 are based on dividing a patient population dataset into high, medium and low levels of Lp-PLA2 and a patient having both high Lp-PLA2 levels and low to normal LDL is indicative of heightened risk of CVD.
17. The method of claim 12 wherein the patient is diabetic.
18. The method claim 12 wherein the patient is both diabetic and hypertensive.
19. The method of claim 12 wherein the patient is diabetic, hypertensive and smokes.
20. The method of claim 12 wherein the patient suffer from a metabolic disorder.
21. The method of claim 20 where in the metabolic disorder is selected from the group consisting of, obesity, overweight, diabetes, insulin resistance, anorexia, and cachexia.
22. The method of claim 12 further comprising determining the patients risk of CVD using the ATP III guidelines.
23. The method of claim 12 wherein the Lp-PLA2 levels are determined by measuring either Lp-PLA2 mass or Lp-PLA2 activity.
24. A method for treating a subject to reduce the risk of a Coronary Vascular Disease (CVD), comprising: selecting and administering to a subject who has above-normal levels of both C-reactive protein (CRP) and Lipoprotein Associated Phospholipase A2 (Lp-PLA2), a therapeutic molecule selected from the group

consisting of statins, Lp-PLA2 inhibitors or cholesterol reuptake inhibitors in an amount effective to lower the risk of the subject developing a future CVD.

25. The method of claim 24 wherein the Coronary Vascular Disease (CVD) is
5 Coronary Heart Disease (CHD).
26. The method of claim 24 wherein the Lp-PLA2 levels are determined by measuring either Lp-PLA2 mass or Lp-PLA2 activity.
- 10 27. A method for treating a subject to reduce the risk of a Coronary Vascular Disease (CVD), comprising: selecting and administering to a subject who has both above-normal levels of Lipoprotein Associated Phospholipase A2 (Lp-PLA2) and low to normal levels of Low Density Lipoprotein Cholesterol (LDL) a therapeutic molecule selected from the group consisting of statins, Lp-PLA2 inhibitors or
15 cholesterol reuptake inhibitors in an amount effective to lower the risk of the subject developing a future CVD.
28. The method of claim 27 wherein the Coronary Vascular Disease (CVD) is Coronary Heart Disease (CHD).
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29. The method of claim 27 wherein the Lp-PLA2 levels are determined by measuring either Lp-PLA2 mass or Lp-PLA2 activity.
30. A kit for diagnosing a patient's susceptibility to Coronary Vascular Disease (CVD)
25 comprising both a suitable assay for measuring Lipoprotein Associated Phospholipase A2 (Lp-PLA2) levels and a suitable assay for measuring C-reactive protein (CRP) levels wherein the levels of both CRP and Lp-PLA2 are determined.
31. The kit of claim 30 wherein the Coronary Vascular Disease (CVD) is Coronary
30 Heart Disease (CHD).
32. The kit of claim 30 wherein the suitable assay for measuring Lp-PLA2 levels either Lp-PLA2 mass or Lp-PLA2 activity assay.

33. A kit for diagnosing a patient's susceptibility to Coronary Vascular Disease (CVD) comprising both a suitable assay for measuring Lipoprotein Associated Phospholipase A2 (Lp-PLA2) levels and a suitable assay for measuring Low Density Lipoprotein Cholesterol (LDL) levels wherein the levels of both LDL and Lp-PLA2 are determined.

34. The kit of claim 33 wherein the Coronary Vascular Disease (CVD) is Coronary Heart Disease (CHD).

35. The kit of claim 33 wherein the suitable assay for measuring Lp-PLA2 levels either Lp-PLA2 mass or Lp-PLA2 activity assay.